

CLAIMS:

1. A valve train assembly for an internal combustion engine, the assembly comprising a valve train carrier having a plurality of individual rocker arm fulcra and a rocker arm attachable to each fulcrum.

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2. An assembly as claimed in claim 1, wherein each fulcrum forms part of a lash adjuster.

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3. An assembly as claimed in claim 2, wherein each lash adjuster is an hydraulic lash adjuster.

4. An assembly as claimed in any preceding claim, wherein each rocker arm constitutes a lever of the first order.

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5. An assembly as claimed in any preceding claim, wherein each rocker arm has a part-spherical surface for mating with a corresponding surface of the fulcrum to which it is attached.

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6. An assembly as claimed in any preceding claim, wherein each rocker arm has been formed by deformation of a sheet.

7. An assembly as claimed in any one claims 1 to 4, wherein each rocker arm has been formed by deformation of a sheet, said deformation also forming a part-spherical surface for mating with a corresponding surface of the fulcrum to which the rocker arm is attached.

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8. An assembly as claimed in any preceding claim, wherein the rocker arms are all of substantially the same length.

9. An assembly as claimed in claim 8, wherein the rocker arms are substantially identical.

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10. An assembly as claimed in any preceding claim, wherein each rocker arm is provided with a resilient apertured member for fitting over the associated fulcrum in order to attach the rocker arm to the fulcrum.

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11. An assembly as claimed in any preceding claim, the assembly also having mounted thereto at least one camshaft.

12. An assembly as claimed in any preceding claim, the carrier having formed therein channels for conveying oil to the fulcra.

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13. An assembly as claimed in any preceding claim, wherein each rocker arm carries a roller for engagement with a cam of a camshaft, and wherein each roller has a substantially flat cylindrical outer surface.

5 14. An assembly as claimed in any preceding claim, the carrier supporting rocker arms for inlet and exhaust valves for a plurality of cylinders.

10 15. An internal combustion engine having a valve train assembly as claimed in any preceding claim, the engine comprising a plurality of cylinders each having inlet and exhaust valves, said carrier supporting rocker arms for said inlet and exhaust valves.

15 16. A method of assembling an internal combustion engine, the method comprising:

- (a) providing a valve train carrier having a plurality of individual rocker arm fulcra;
- (b) attaching a rocker arm to each fulcrum; and
- (c) mounting the carrier with the attached rocker arms on a
20 cylinder head such that each rocker arm is brought into functional relationship with a respective engine valve.

17. A method as claimed in claim 16, the method including the step of mounting at least one camshaft to the carrier before mounting the carrier on the cylinder head.

5 18. A method as claimed in claim 16 or claim 17, wherein each rocker arm is mounted to a respective fulcrum by means of an apertured sheet which is snapped-fitted over the fulcrum.

10 19. A rocker arm for an internal combustion engine, the rocker arm having a part-spherical surface for mating with a corresponding surface of a fulcrum which is arranged to permit reciprocation of the rocker arm in order to operate a valve, the rocker arm further comprising means for attaching the arm to the fulcrum.

15 20. A rocker arm as claimed in claim 19, wherein the rocker arm is channel-shaped in section and has been formed by deformation of a sheet.

20 21. A rocker arm as claimed in claim 20, wherein the part-spherical surface of the rocker arm has been formed by deformation of said sheet.

22. A rocker arm as claimed in any one of claims 19 to 21, wherein the attaching means comprises a resilient, apertured member for fitting over the fulcrum.

5 23. A rocker arm as claimed in any one of claims 19 to 22, the rocker arm having a roller for engagement with a cam of a camshaft, the roller having a substantially flat cylindrical surface.

10 24. A valve train assembly for an internal combustion engine, the assembly comprising a plurality of rocker arms each arranged for pivoting about a respective fulcrum, the rocker arms being of substantially equal length.

15 25. An assembly as claimed in claim 24, including a common carrier supporting the rocker arms by means of said fulcra.

26. An assembly as claimed in claim 24 or claim 25, wherein each fulcrum forms part of a lash adjuster.